

# Weekly Report

2017.11.06-2017.11.12

## 1.This Week

### Summarization Form

Task	Progress	Time
Waveline	Paper: finish the expert interview section of the paper, revise the paper and video.	Next week
Power Grid New Projects	Ask Dr. Huang questions about the raw data and start progressing it.	
Power Grid Visualization Survey	Gathering materials.	
VIS 2018 paper	Idea evaluation.	

### Wavelines

- 1.Finish the expert interview and revise the paper.
- 2.Re-record the video because the view names on the interface is changed and add new parts.
- 3.Revise the summary material (almost finished).

### Power grid ideas sorting by priority

1. Wavelines with SQC methods.
2. Visual Analysis for anomaly spread in a power grid.
3. temporal correlation relationships between multiple variables.

### Power Flow Project in Ningbo

- 1.Read and understand the data.
- 2.Start processing the raw data sent by Dr. Huang. The data structure is very similar to the former data but the most important data file for every sample is binary-coded strings. The first step is to translate this file.
- 3.The data we received now is still transient stability simulation data (but samples are given under different power flow conditions and more samples are provided). Data we received for now is only able to visualize the result of transient stability

simulation. Dr. Huang is still preparing power flow simulation data for power flow intermediate process visualization.

## **Others**

1. Read E-MAP and prepare the slides for the group meeting.
2. Review the PVIS paper about cyberspace virtualization.

## **Papers**

### **1.E-Map: A Visual Analytics Approach for Exploring Significant Event Evolutions in Social Media**

This paper extracts keywords, messages, and reposting behaviors into map features such as cities, towns, and rivers to build a structured and semantic space for users to explore. A system with the E-map encoding is further provided. The content of this paper is abundant and the metaphor is very clever to combine the node-link and space-filling method. But evaluation for the map metaphor is lacked to validate its effectiveness.



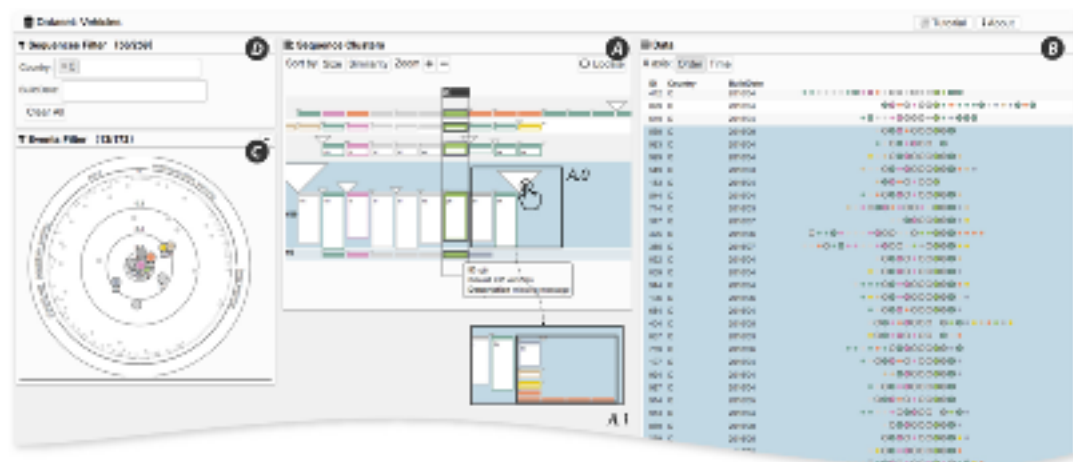
### **2.Revisiting Stress Majorization as a Unified Framework for Interactive Constrained Graph Visualization**

This paper present an improved stress majorization method that is able to deal with user defined constraints by reformulating the stress function to impose constraints on both the edge vectors and lengths. And the method is accelerated with GPU.

### **3.Sequence Synopsis: Optimize Visual Summary of Temporal Event Data**

This paper proposes a visual approach based on the minimum description length (MDL) principle to construct a coarse-level overview of event sequence data and in the meantime tries to balance the information loss in it. The method addresses a

fundamental trade-off in visualization design: reducing visual clutter and increasing the information content in a visualization.



## 2.TODO

1. Waveline paper writing.
2. other projects of power grid started.
3. VIS 2018 paper idea evaluation and left problems solving.